

1    What is claimed is:

2    1.     An improved feeder apparatus, comprising:

3           a storage hopper having a lower opening, the storage hopper  
4    adapted to hold a volume of feed pellets;

5           a spinner plate mounted below the storage hopper lower opening,  
6    wherein the spinner plate is mounted on a vertical shaft, wherein feed  
7    pellets are allowed to drop below the spinner plate when the spinner plate  
8    is rotating, and wherein feed pellets are block from dropping below the  
9    spinner plate when the spinner plate is not rotating;

10          a first motor coupled to the spinner plate shaft, wherein the first  
11    motor, when energized, causes the spinner shaft and spinner plate to  
12    rotate about an axis defined by the shaft;

13          a paddle wheel mounted on a horizontal shaft, wherein the paddle  
14    wheel is adapted to throw feed pellets away from the feeder apparatus  
15    when rotated about the paddle wheel shaft;

16          a second motor connected to the paddle wheel shaft, wherein the  
17    second motor, when energized, causes the paddle wheel shaft and paddle  
18    wheel to rotate about an axis defined by the paddle wheel shaft;



1           a funnel system having a first opening below the spinner plate for  
2   catching feed pellets, and having a second opening allowing feed pellets  
3   to drop into the paddle wheel; and

4           a controller connected to the first and second motors for selectively  
5   energizing the first and second motors.

6   2.     The improved feeder apparatus of Claim 1, wherein the first motor  
7   operates at a relatively low rate of speed relative to the second motor.

8   3.     The improved feeder apparatus of Claim 1, wherein the spinner  
9   plate comprises a substantially square planar plate having tabs along each  
10   edge folded at an angle compared to the plane of the plate, wherein two of  
11   the tabs, located on opposite edges, are folded up, while the remaining  
12   two edges are folded down.

13   4.     The improved feeder apparatus of Claim 1, wherein the controller  
14   operates to energize and de-energize the first and second motors to define  
15   a feeding cycle, and wherein the second motor is energized before the first  
16   motor to begin a feeding cycle, and the second motor is de-energized after  
17   the first motor to end a feeding cycle.

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1 5. The improved feeder apparatus of Claim 4, wherein the second  
2 motor is energized approximately 4 seconds before the first motor, and  
3 wherein the first motor is de-energized approximately 4 seconds before  
4 the second motor.

5 6. The improved feeder apparatus of Claim 1, wherein the controller  
6 defines a selected number of feeding cycles during each day, with each  
7 feeding cycle having a selected duration during which feed is dispersed.

8 7. The improved feeder apparatus of Claim 6, wherein the controller  
9 operates to energize and de-energize the first and second motors during  
10 each feeding cycle, and wherein the second motor is energized before the  
11 first motor to begin each feeding cycle, and the second motor is de-  
12 energized after the first motor to end each feeding cycle.

13 8. The improved feeder apparatus of Claim 7, wherein the second  
14 motor is energized approximately 4 seconds before the first motor, and  
15 wherein the second motor is de-energized approximately 4 seconds after  
16 the first motor.

17 9. The improved feeder apparatus of Claim 7, wherein both the first  
18 and second motors remain energized for the duration of each feeding  
19 cycle.

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- 1    10.    A method of dispersing feed pellets, comprising the steps of:
- 2            providing a plurality of feed pellets in a hopper;
- 3            rotating a spinner plate, located below an opening in a bottom of the
- 4    hopper, to cause feed pellets to fall from the hopper;
- 5            diverting the fallen feed pellets to a paddle wheel; and
- 6            rotating the paddle wheel at a high rate of speed sufficient to
- 7    disperse the pellets.
- 8    11.    The method of Claim 10, wherein the spinner plate and paddle
- 9    wheel are rotated for a selected period of time to define a feeding cycle.
- 10   12.    The method of Claim 11, wherein, for a feeding cycle, the spinner
- 11   plate begins rotation after the paddle wheel, and wherein the paddle
- 12   ceases rotation after the spinner plate.
- 13   13.    The method of Claim 12, wherein the spinner plate begins rotation
- 14   approximately four seconds after the paddle wheel, and wherein the
- 15   paddle wheel ceases rotation approximately four seconds after the spinner
- 16   plate.
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